

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

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ON THE TYPE SPECIMEN OF THE CRINOID DESCRIBED  
BY MÜLLER AS *ALECTO PURPUREA*.

BY AUSTIN HOBART CLARK.

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In the year 1843 Professor Johannes Müller described, under the name of *Alecto purpurea*, a supposedly new comatulid which had been brought from Australia by Preiss. No further mention of this form is found until 1884 when Professor F. Jeffrey Bell, in reporting upon the collections made in northeastern Australia by the *Alert*, tentatively identified some of his specimens with it. Dr. P. H. Carpenter, in the preparation of the *Challenger* report upon the comatulids, visited Berlin, and was able personally to examine Müller's original specimen. From an examination of the notes which he made from it, he decided that it represented the species which was originally diagnosed by Linnaeus in 1758, on the basis of an example from the Indian Ocean still preserved at Lund, as *Asterias pectinata*. Carpenter's verdict has been everywhere accepted as final, and Müller's *Alecto purpurea* has been allowed to lapse into the synonymy of the Linnaean *Asterias pectinata*, the *Comatula pectinata* as now understood.

The authorities of the Berlin Museum have recently been so kind as to submit to me for study, in connection with the material in the U. S. National Museum, their entire collection of recent crinoids, and they had the generosity to include such of the old Müllerian types as are in their possession. It is needless to remark that this act of courtesy on their part has placed me under the greatest obligation to them. All who have studied the recent crinoids know that many of Müller's descriptions, written nearly 70 years ago, are very difficult to

appreciate, and in some cases his original diagnoses have never been revised, so that the identification of certain of his forms is now more or less a matter of guesswork. Carpenter placed some of Müller's species in the synonymy of earlier species described either by him or by Lamarek, without any notes in regard to the type specimens. While in most cases this course was no doubt justified, increasing knowledge in regard to the differential specific characters of comatulids has raised certain questions as to the propriety of his action in so doing in one or two instances, and it has thus become imperative that Müller's types be reexamined, and described and figured along the lines followed in the systematic work of the present day. Through the kindness of the Berlin Museum I have been placed in so fortunate a position as to be able to do this with the types in their possession, and I take this opportunity of acknowledging my deep indebtedness therefor to that institution, and in particular to Drs. W. Weltner and R. Hartmeyer.

Professor Müller's systematic work on the comatulids, considering his limited amount of material, was exceptionally good. Most of his descriptions even at the present day leave little to be desired, being far more detailed and accurate than very many of those subsequently drawn up by others. But he very rarely gave any comparative notes; each of his descriptions he regarded as a unit which needed no comparison with any other similar unit. This has resulted in one or two instances in the suppression of a species which, had a comparison with other allied species been given, would have been recognized as valid.

*Alecto purpurea* belongs to the Comasteridae, falling in the subfamily Comactiniinae and in the genus *Comatula* as now understood. It is a rather small species, and is most nearly related to *C. pectinata* from which, however, it is quite distinct, being separable at once by the curious segregation of its cirri, which are from five to ten in number and occur singly or in pairs in the interradial angles of the centrodorsal, those of *C. pectinata* occurring in an irregular row all around the margin. I have examined a large number of specimens of *C. purpurea*, all from Queensland, and compared them with some dozens of *C. pectinata* from all parts of its range, and have never had any difficulty in differentiating them. The type specimen may be described as follows:

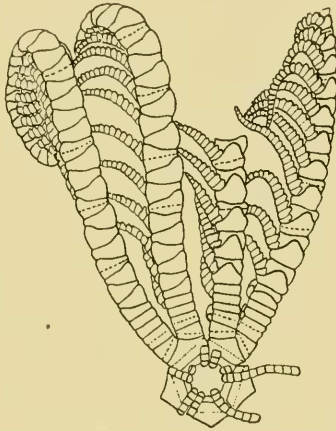
***Alecto purpurea* J. Müller.**

*Alecto purpurea* J. MÜLLER, Wiegmann's Archiv für Naturgesch., 1843, I, p. 132 (New Holland).

Centrodorsal a small thin disk, with the slightly concave dorsal pole about 1 mm. in diameter.

Cirri broken; ten cirrus stumps remain, the longest 5.5 mm. long with ten segments, the first short, the remainder about one-third broader than long. The cirri are segregated in the interradial angles of the centrodorsal.

Radials very short, just appearing beyond the centrodorsal; 1 Br<sub>1</sub> and 1 Br<sub>2</sub> very closely united, appearing externally as if united by syzygy, when taken together broadly pentagonal, twice as broad as long; 1 Br<sub>1</sub> laterally united; 1 Br<sub>2</sub> (axillary) triangular, the lateral angles not in apposition.



*Alecto purpurea* J. Müller; the type in the Berlin Museum.

Ten arms 70 mm. long; first two brachials united by what appears to be a perfect syzygy, forming a wedge shaped pair about twice as broad as long in the median line; the first brachial is short with its proximal and distal edges parallel, and the second is triangular, twice as broad as the exterior length; third and fourth brachials united by syzygy, forming a short nearly oblong pair about twice as broad as the maximum length; following three brachials short, slightly wedge shaped, nearly three times as broad as long, the following becoming triangular, twice as broad as long, with the anterior edge slightly concave and the exterior slightly convex. The brachials gradually increase in length distally, and in the outer part of the arm become wedge shaped, and distally about as long as broad. In the median line of the dorsal surface of the arm there runs a narrow low rounded carination which is rather prominent and is continued to the arm tip. The arms increase slightly in diameter to the twelfth or

fourteenth brachials, then taper slowly distally. Syzygies occur between the third and fourth brachials, again between the eleventh and twelfth to thirteenth and fourteenth (usually in the latter position) and sixteenth and seventeenth or seventeenth and eighteenth (usually in the latter position) and distally at intervals of from three to five (usually four) oblique muscular articulations.

The pinnules resemble those of *Comatula pectinata*; the second segment of the second and third is more or less enlarged and carinate dorsally, most marked on the former; the third segment is similarly, but much less noticeably, modified.

Color, deep purple.

*Type locality*.—New Holland. The type is in the Berlin Museum.